

Abstract of Disclosure

A free piston engine is configured with a pair of opposed engine cylinders located on opposite sides of a fluid pumping assembly. An inner 5 piston assembly includes a pair of inner pistons, one each operatively located in a respective one of the engine cylinders, with a push rod connected between the inner pistons. The push rod extends through an inner pumping chamber in the fluid pumping assembly and forms a fluid plunger within this chamber. An outer piston assembly includes a pair of 10 pistons, one each operatively located in a respective one of the engine cylinders, with at least one pull rod connected between the outer pistons. The pull rod extends through an outer pumping chamber in the fluid pumping assembly and forms a fluid plunger within this chamber. Each outer piston cooperates with an integrated scavenge pump in order to compress the 15 charge air, thus significantly increasing the air charge density into the engine cylinders for each stroke of the engine.